

Amendment and Response

Applicant: Thomas C. Anthony

Serial No.: 10/612,676

Filed: July 2, 2003

Docket No.: 10014296-1

Title: MAGNETIC MEMORY DEVICE

REMARKS

The following remarks are made in response to the non-final Office Action mailed September 8, 2005, in which claims 1-12 and 29-32 were rejected. With this Response, claims 1 and 29 are amended. Claims 1-12 and 18-32 remain pending in the application, with claims 18-28 previously withdrawn from consideration. Claims 1-2 and 29-32 are presented for reconsideration and allowance.

Claim Rejections under 35 U.S.C. § 103

Claims 1-12 and 29-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rizzo et al. (U.S. Patent Application Publication No. 2004/0000415) in view of Rostoker et al. (U.S. Patent No. 5,389,556).

Regarding independent claims 1 and 29, Rizzo et al. is alleged to disclose a semiconductor device 5 comprising: a first surface 17 having memory chips 15 disposed thereon, the memory chips defining an exterior face 18 of the semiconductor device; a second surface 21 opposite the exterior face 18; and a magnetically permeable shield layer 26 extending over the entirety of the second surface 21. With regard to claim 29 in particular, the Office Action states the magnetically permeable shield layer 26 is considered means for protecting the memory chips from external or stray magnetic fields, and the magnetically permeable shield layer 26 comprises a soft material selected from the group consisting of alloys of iron, alloys of nickel and alloys of cobalt. Rizzo et al is acknowledged as failing to disclose the semiconductor device 5 including memory chips/dies 15 as a wafer having unseparated memory chips. Rostoker et al. is cited as teaching the formation of identical chips/dies from a semiconductor wafer having unseparated chips before being cut into individual chips/dies.

Independent claim 1 has been amended and now claims a memory wafer comprising: a first surface having a plurality of unseparated memory chips disposed thereon, **the memory chips defining an exterior face of the memory wafer**; a second surface opposite the exterior face; and **a magnetically permeable shield layer extending over the entirety of the exterior face of the memory wafer.**

Independent claim 29 has been similarly amended, and now claims a memory wafer comprising a first surface having a plurality of unseparated memory chips disposed thereon,

Amendment and Response

Applicant: Thomas C. Anthony

Serial No.: 10/612,676

Filed: July 2, 2003

Docket No.: 10014296-1

Title: MAGNETIC MEMORY DEVICE

the memory chips defining an exterior face of the memory wafer; a second surface opposite the exterior face; and means for protecting the memory chips from stray magnetic fields extending over the entirety of the exterior face of the memory wafer.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143

Applicants respectfully submit that the references at least fail to teach or suggest all the claim limitations of amended independent claims 1 and 29. In particular, the combination of Rizzo et al. and Rostoker et al. fails to disclose or suggest **a magnetically permeable shield layer extending over the entirety of the exterior face of the memory wafer**, as set forth in amended claim 1, or **means for protecting the memory chips from stray magnetic fields extending over the entirety of the exterior face of the memory wafer**, as set forth in amended claim 29.

In fact, Rizzo et al. teaches away from the claimed invention by teaching that a magnetic material layer on the exterior face of the substrate should extend over **less** than the entirety of the exterior face of the substrate. See, for example, Figs. 1-7 of Rizzo et al, showing magnetic material layer 30 extending over less than the entirety of the exterior face of the substrate 10 (defined by the location of MRAM bits 14). Rostoker et al. fails to remedy the deficiency of Rizzo et al., in that Rostoker et al. makes no teaching whatsoever regarding a magnetically permeable shield layer extending over the entirety of the exterior face of a memory wafer. Accordingly, the combination of Rizzo et al. and Rostoker et al. fails to establish a *prima facie* case of obviousness for at least the reason that the references fail to teach or suggest all the elements of amended independent claims 1 and 29.

Withdrawal of the rejection of claims 1 and 29 under 35 U.S.C. §103(a) is therefore respectfully requested.

Amendment and Response

Applicant: Thomas C. Anthony

Serial No.: 10/612,676

Filed: July 2, 2003

Docket No.: 10014296-1

Title: MAGNETIC MEMORY DEVICE

Dependent claims 2-12 and 30-32 depend, either directly or indirectly, from independent claims 1 and 29, which are in allowable condition for at least the reasons discussed above. Dependent claims 2-12 and 30-32 are therefore also in allowable condition at least by reason of their dependency from claims 1 and 29. Accordingly, withdrawal of the rejection of claims 2-12 and 30-32 under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

For at least the reasons discussed above, claims 1-12 and 29-32 are in allowable condition and notice to that effect is respectfully requested.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Amendment and Response

Applicant: Thomas C. Anthony

Serial No.: 10/612,676

Filed: July 2, 2003

Docket No.: 10014296-1

Title: MAGNETIC MEMORY DEVICE

Any inquiry regarding this Amendment and Response should be directed to either Matthew B. McNutt at Telephone No. (612) 767-2510, Facsimile No. (612) 573-2005, or Phil Lyren at Telephone No. (281) 514-8236, Facsimile No. (281) 514-8332. In addition, all correspondence should continue to be directed to the following address:

Hewlett-Packard Company
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

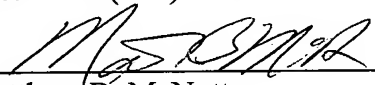
Respectfully submitted,

Thomas C. Anthony et al.

By their attorneys,

DICKE, BILLIG & CZAJA, PLLC
Fifth Street Towers, Suite 2250
100 South Fifth Street
Minneapolis, MN 55402
Telephone: (612) 573-2000
Facsimile: (612) 573-2005

Date: Nov 22, 2005
MBM:dmd


Matthew B. McNutt
Reg. No. 39,766

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 22nd day of November, 2005.

By 
Name: Matthew B. McNutt